

REMARKS

Claims 1-11 are all the claims pending in the application. New claims 7-11 have been added to further define the claimed invention. Reconsideration and allowance of all the claims are respectfully requested in view of the following remarks.

Claim Objections

The examiner objected to claim 1 because it was unclear as to what was being referenced by the “stage” and “guide elements”. Accordingly, Applicants have amended the claims in a manner believed to overcome this objection.

Claim Rejections - 35 U.S.C. § 102

The Examiner rejected claims 1-6 under §102(b) as being anticipated by US Patent 6,327,929 to Yanagisawa (hereinafter Yanagisawa). Applicants respectfully traverse this rejection because Yanagisawa fails to disclose all of the elements as set forth and arranged in the claims.

Claim 1 sets forth a positioning apparatus comprising: a base; guide elements provided on non-adjacent ends of the base; a slider which is guided by the guide elements; and a drive element provided at one of the non-adjacent ends of the base, wherein the drive element moves the slider along the guide elements, and wherein a stiffness of the slider, in a yawing direction of the slider, in an area where the drive element is provided is made higher than that in an area opposite the area where the drive element is provided.

By way of non-limiting example, with reference to Fig. 1, one embodiment consistent with that set forth in claim 1 comprises: a base 11; guide elements 60A, 60B provided on non-adjacent ends of the base 11; a slider 13 which is guided by the guide elements 60A, 60B; and a drive element 10 provided at one of the non-adjacent ends of the base, wherein the drive element 10 moves the slider 13 along the guide elements 60A, 60B, and wherein a stiffness of the slider 13, in a yawing direction (arrow in Fig. 2) of the slider 13, in an area where the drive element 10 is provided is made higher than that in an area opposite the area where the drive element 10 is provided.

In contrast to that set forth in claim 1, Yanagisawa discloses an arrangement wherein the drive element is provided in the middle of the base, and the stiffness of the slider is the same on each of two non-adjacent ends wherein the guide elements are provided. More specifically, with reference to Yanagisawa's Fig. 1, he discloses a base 18 having two non-adjacent ends (top and bottom of the Fig.) on which there are provided guide elements 19. However, the drive element 22, 26, is positioned in the center of the base 18; it is not positioned on one of the two non-adjacent ends of the base on which there is provided one of the guide elements. Additionally, Yanagisawa's slider 16 or 42, is symmetrically supported by guide elements so that its stiffness in the yawing direction is equal on each of the two opposing areas thereof.

Accordingly, in light of the above, Yanagisawa fails to disclose an arrangement wherein the drive element is provided on one of two non-adjacent ends of a base on which there is also provided a guide element, and also fails to disclose an arrangement wherein the stiffness of the slider in the yawing direction of the slider is different in two opposite areas, as set forth in claim 1.

Further in Yanagisawa, for example, if the X-axis stage (16) moves to one side, a drive element of the Y-axis stage (18) moves to one side. In this situation, it looks like the Y-axis stage (18) is guided by three linear guides (14, 17 and 17). Then, the stiffness of the guide element at the drive element side facially appears to be higher than the stiffness of the guide element (14) at the opposite side. But since a drive element is not fixed on a base, it is not possible to always keep high the stiffness of a guide element at a side on which a drive element is provided, as is possible in the presently claimed invention. Further, Yanagisawa's arrangement as asserted by the Examiner is more similar to that shown in Fig. 5A of the present application, wherein, for example, Yanagisawa's drive element 24, 28 corresponds to drive 52 of the present application's Fig. 5A, and Yanagisawa's stage 18 corresponds to stage 13 of the present application's Fig. 5A.

For at least any of the above reasons, Yanagisawa fails to anticipate claim 1. Likewise, this reference fails to anticipate the dependent claims 2-6.

New Claims

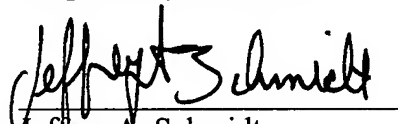
Applicants have added new claims 7-11 to further define the invention. New claims 7-11 depend from claim 1 and, therefore, should be allowable at least by virtue of their dependence.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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